

Bill McIntyre
Head of Operational and Flight Crew
Licensing Standards
Civil Aviation Safety Authority
Australia

THE AUSTRALIAN DAY VFR SYLLABUS

THE INTRODUCTION OF COMPETENCY BASED STANDARDS INTO AUSTRALIAN FLYING TRAINING

Introduction

Australia has a long history in aviation with many of the early long distance pioneering flights being completed by Australian aviators. While Australians as a people are often identified as trail blazing innovators, flying training in Australia has developed along the same traditional lines as elsewhere in the world, mainly as a result of the influence of the British flight training system.

Curriculums based on these traditional methods of assessing a pilot's competency can often be subjective and open to interpretation. This could lead to variations in flying standards and may not guarantee the required level of aviation safety. The International Civil Aviation Organization (ICAO) has identified that the assessment of pilot standards throughout the world is very subjective and consequently inconsistent and has commenced a preliminary study to review its current training standards¹.

The Civil Aviation Safety Authority of Australia (CASA) decided in early 1995 to sponsor the development of competency or performance based standards for pilot training. This was as a result of government policy (the National Training Reform Agenda of 1992) encouraging all national industry standards (of which flying training is one) to be competency based. The first standard to be developed was the private and commercial pilot aeroplane licenses.

The critical parts of the standard from an aviation perspective, the Assessment Guides, were incorporated into the new Australian Day

VFR Syllabus. This paper will explain the principles of competency standards as applicable in Australia; the process that was followed to obtain national endorsement; the problems encountered and solutions applied; how the standards were implemented; and CASA's future intentions.

Principles of Competency Standards

The introduction to the Australian National Competency Standards for Private and Commercial Pilots states that "Competency standards separate and fix the limits of the tasks that make up a job, then specify the level of performance needed to complete each task to the standard required by the industry". It continues, "They define the job of flying an aeroplane, then they define how well a pilot must do the job". These statements explain the principles of competency standards, but to achieve this result the standards must be:

objective and measurable
practical and achievable
standardised throughout the industry
a realistic measure of what must be achieved to be a private/commercial pilot
able to assess flying technique
safe.

To comply with the requirements of the responsible body, the Australian National Training Authority (ANTA), these standards must be produced by industry. However, CASA soon realised that the Australian aviation industry did not have the resources and cohesiveness to develop the standards and took on the task of drafting them for industry to approve. The advantage of this situation was that by drafting the standards, CASA could ensure that all the requirements in the approved training syllabus (Day VFR Syllabus) could be met and any safety issues would be addressed.

¹ Lamy, Paul and Fox, Mitchell A, ICAO Journal Volume 54, No 2 March 1999 'Training Standards'.

ICAO ANC Task No. PEL-9801: *Review of flight crew training Standards*.

When developing these standards, three 'masters' had to be satisfied. The Industry had to be convinced that the standards reflected what a private or commercial pilot would be expected to be able to do 'in the field'. The ANTA had to be satisfied that all the mandatory processes were followed, adequate consultation with industry took place and the standard was in the correct format. CASA, as the regulator, required that the standard fulfilled all the training and safety requirements that it was responsible for and that the standard could be adapted to the Day VFR Syllabus.

There was concern that a national standard that complied with the regulation ANTA format would not satisfy the needs of industry or the regulator. CASA negotiated with ANTA for an 'Assessment Guide' to be attached to the national standard before it would be deemed acceptable. These conditions were agreed to by ANTA and now the Assessment Guide forms the backbone of the Day VFR Syllabus.

A copy of the Australian National Competency Standards for Private and Commercial Pilots is available from the CASA website at www.casa.gov.au click on 'Pilots, operators' then 'Flying Training'.

The Process

Before a national standard can be endorsed, it must go through a formalised process that involves extensive consultation with industry. This ensures that the commercial requirements of that industry are met. In addition, a steering committee made up of representatives from industry, unions and aviation associations must be formed to ensure that the project remains 'on track and is realistic'. This committee finally sanctions the standards which are then forwarded to ANTA for endorsement as a national standard. CASA also insisted that a technical committee, consisting of industry experts, commented and advised on the technical accuracy and validity of the information in the document.

Industry consultation is a major requirement and this was achieved by mail outs to industry, a series of 30 widely advertised meetings around the country, and placing the draft standards on a dedicated Internet site that was capable of receiving input from any interested persons. Although the draft of the technical aviation information was completed by a CASA project

officer, the format of the national standard, organisation of meetings, establishment of the Internet site and coordination of industry responses was done in conjunction with an Industry Training Advisory Board (ITAB).

An ITAB is a non-government, non-profit, advisory body that facilitates the development and endorsement of national standards. There are 21 ITABs in Australia that handle the training needs of all industries. The flying aspects of aviation are managed by the transport and distribution ITAB.

The process of drafting, consultation, redrafting, final approval and endorsement was completed over 15 months.

Problems and Solutions

During the production and endorsement of the national standards many problems were encountered.

Probably the most significant difficulty was to convince and educate both the industry and elements of CASA about the need for objective and measurable standards and then to ensure that users were able to apply them to assess appropriate outcomes. To meet this requirement, an ongoing education campaign is being conducted. This has been achieved by instructor seminars, meetings, letters to flying training organisations and articles in magazines and journals. However, it is anticipated that this process will not be successful until considerable practical experience has been gained by the industry.

A second problem arose as a result of the industry requiring standards that reflected commercial piloting requirements, the ANTA having bureaucratic and procedural policies that limited the practical value of a national standard and CASA stipulating that the format of the document be modified to accommodate its needs. Great difficulty was experienced in trying to get agreement on the wording of the Assessment Guides to ensure that they were expressed in outcome terms. For example, it was difficult to express the well understood notion of 'airmanship' in competency terms.

All these conflicts were resolved by constant communication, negotiation and compromise by all parties. Although some members of the

industry considered the language used to be 'non aviation oriented', practical analysis shows that the style of expression is used to prevent ambiguity. The final product was applauded by all parties.

During the consultation process, it was difficult to get people involved in the project and to elicit input. This was achieved by three rounds of national meetings, use of the Internet and mail outs. Although CASA was concerned by the lack of response, both ANTA and the ITAB considered that this standard was the most widely and effectively consulted project that they had been involved with.

There was early criticism of the costs involved in developing the standards. This was because the industry was not aware of the consultation, communication and travel requirements that were involved to comply with the ANTA process for endorsement of a national standard. These costs were borne equally by CASA and ANTA. Future projects will be financed by ANTA. Industry donations are 'in kind' in the form of advice and time.

There was also a natural scepticism and reluctance by many to adopt a new 'training concept', but as these people became more familiar with the standard and saw the final product, attitudes started to change. CASA is still involved in a campaign to educate users, but feedback from the industry has been very positive and even many of the inflexible senior instructors are now accepting and applying the competency standards.

Implementation

The national standard was introduced to the aviation industry by incorporating the Assessment Guides into the Day VFR Syllabus (Aeroplanes). This document is published by CASA and details the flying standards and theory syllabus for private and commercial pilots. Although the old syllabus served industry well, the assessment of standards was very subjective and open to wide interpretation. This has led to a variation of standards throughout the nation and a perceived reduction in flying standards.

The new issue of the syllabus explains the principles of competency standards, has a list of applicable definitions, an Achievement Record

that is managed by students, copies of the flight test forms and most importantly, inclusion of all the Assessment Guides from the national standard. The Assessment Guides detail the techniques, tolerances, attitudes and airmanship aspects that should be considered by an assessor.

The new syllabus should be read in conjunction with the national standard. The old version of the syllabus had subjective assessment criteria for private and commercial pilots. A private pilot had to be "*proficient and fit to operate without supervision*" and a commercial pilot had to be "*highly proficient under pressure*". Both these criteria are subjective and unmeasurable, whereas in the national standard for a private pilot, "*Assessment should confirm that control of the aeroplane or situation is maintained at all times and in such a manner that if the successful outcome of a procedure or manoeuvre is in doubt, corrective action is taken*". For a commercial pilot, "*Assessment should verify that control of the aeroplane or situation is maintained at all times and in such a manner that the successful outcome of a procedure or manoeuvre is not in doubt*".

Competency standards detail in objectively measurable terms '*the minimum acceptable standards*' that must be achieved by a pilot to operate safely and effectively. In practice it would be expected that flight training organisations would strive for higher levels of achievement than those detailed in competency standards and the new Day VFR Syllabus. In the context of the national standard, 'safe' means the completion of a flight or manoeuvre without injury to persons, damage to aircraft or breach of aviation safety regulations, while meeting the requirements of the national standard.

One copy of the national standard and the Day VFR Syllabus was sent to each fixed wing flying training organisation in Australia, with a series of explanatory summaries and letters. The Day VFR Syllabus became effective on 1 July 1999 and after a two month familiarisation period, it became mandatory on 1 September 1999.

The concept has been well accepted by industry and required very little change if training organisations were already meeting the standards set down in the old syllabus. There is still some uncertainty and scepticism evident, but this is more with the mechanics than the philosophy and in the main involves CASA's administrative

requirements. Those flight training schools which have approached the concept with an open mind are very pleased with the benefits and results.

A disk containing Issue 2.1 of the Day VFR Syllabus (Aeroplane) is included with this paper. If the disk is missing, the Syllabus can be downloaded from **www.casa.gov.au**

The Future

In the future, CASA intends that all flight standards will be competency based. It is expected that over the next three years, helicopter, instructor and instrument rating standards will be completed. These will be developed using the aeroplane standards as a model. With practical use, any deficiencies that become evident in the aeroplane standards will be amended in July 2000. Already, a significant list of improvements has been compiled, including more 'decision making assessments', which will lead to an enhanced document.

The success of the Australian pilot competency project will depend upon the attitude and professionalism of the flying training organisations implementing the standards as well as the amount of surveillance that CASA can conduct. This success will not become evident for some years. The most obvious indicator will be a consistent reduction in accident statistics.

Conclusion

ICAO has identified a world wide problem with the objective measurement of pilot competency standards. Competency, or performance based, standards for private and commercial aeroplane pilots are now in place in Australia and offer a solution to this deficiency. They offer an objective and standardised method of measuring pilot performance.

The concept has been well accepted by the Australian aviation industry and students, instructors and testing officers are now able to determine exactly what the standard is and how to achieve it. Although at an early stage, users are able to see the potential benefits that may be gained.

As the standards are used and improved, they may provide a model to be used by other nations and ultimately, could be directed at the airline transport industry and lead to an improvement in international airline safety statistics.

Further information on the Day VFR Syllabus and the competency based standards for Australian commercial and private pilots may be obtained by emailing: astley_p@casa.gov.au, or by telephone on:
+61 2 6217 1653.